

The Davison Freeway from
M-10 to Oakland Avenue
(Davison Limited Highway)
From M-10 to Oakland Avenue
Highland Park
Wayne County
Michigan

HAER No. MI-103

HAER
MICH
82-HIPA
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Great Lakes Systems Office
Department of the Interior
1709 Jackson Street
Omaha, Nebraska 68102-2571

Historic American Engineering Record
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Location: Between M-10 and Oakland Avenue, Highland Park, Wayne County, Michigan

Quad: Highland Park, Michigan 1:24,000
UTM: A: 17.326320.4696000
B: 17.328300.4696830

Date of Construction: 1941-1942

Engineers: Leroy C. Smith, County Highway Engineer; John K. Norton, Road Engineer; Julian C. Meade, Engineer of Structural Design; and Harry A. Shuptrine, Engineer of Bridges and Structures, Wayne County Road Commission.

Builder: William J. Storen Construction Company, Charles J. Rogers Construction Company, Cook Contracting Company, and others.

Present Owner: Michigan Department of Transportation, 425 West Ottawa Street, Lansing, Michigan 48909

Present Use: Limited-access vehicular highway to be replaced by a similar highway at the same location.

Significance: The Davison Freeway was the first below-grade limited access highway built in Michigan and the first built in a Michigan city. It was one of the first depressed urban freeways in the United States. It relieved crosstown traffic congestion in Highland Park and Detroit, and served as a model for later Detroit freeways.

Historian: Charles K. Hyde, Wayne State University, Detroit, Michigan 48202, May 1996.

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The Board of County Road Commissioners of Wayne County, Michigan, designed this 7,000-foot depressed limited access highway to relieve traffic congestion on the surface streets in the city of Highland Park. The home of the Ford Motor Company Highland Park plant and the birthplace of mass production, Highland Park was a thickly-settled city of 50,000 completely surrounded by Detroit. Highland Park straddled the seven major north-south surface streets serving Detroit's burgeoning automobile traffic. Three of these--Hamilton, Woodward, and Oakland Avenues--also carried major streetcar lines. Davison Avenue was the only east-west (crosstown) street extending through Highland Park and continuing into Detroit. Industrial districts and railroad yards east of Oakland Avenue blocked access to Detroit streets further east. The only nearby through street was Six Mile Road at the northern border of Highland Park. Davison Avenue extended a total of 7 1/2 miles from Wyoming Avenue on the west through Highland Park to Van Dyke Avenue on the east. For one short stretch east of Woodward Avenue, Davison became Windemere Avenue.¹

Before the Davison Freeway project, the Wayne County Road Commissioners had widened Davison Avenue in Detroit to a right-of-way of 120 feet, built 80-foot pavements, and provided railroad grade separations. Davison Avenue in Highland Park was a residential street with 32-foot and 42-foot pavements, and substantial jogs at Hamilton and Oakland Avenues, making the street a major bottleneck. A traffic count in July 1940 showed about 15,000 vehicles travelling in each direction between 7 A.M. and 9 P.M., for a total volume of 30,000 vehicles. The seven north-south streets carried 105,000 vehicles during the same 14-hour traffic count. Traffic on Davison frequently clogged the intersections with these streets during rush hours, causing long delays.²

The Wayne County Road Commissioners considered several solutions, including widening Davison Avenue at the same grade as the surrounding streets, elevating Davison, or depressing it below grade level. A Master Plan proposed for the Detroit area in 1925 called for the creation of 300 miles of "superhighways," which were nothing more than grade-level boulevards on a 204-foot right of way, with no effort to control access or to eliminate traffic from cross streets.³

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Leroy C. Smith, who served as county highway engineer for 39 years before retiring in 1957, discussed the Davison design in an interview in 1960. According to Smith, at the time the Road Commission engineers were examining alternative approaches, he preferred an elevated design that would allow automobile parking underneath the roadway. Highland Park residents, however, strongly objected, arguing that the result would be as noisy as elevated trains in Chicago. As time passed and steel was increasingly diverted into defense work, an elevated highway design quickly became impractical. The decision to build a depressed highway was fortuitous because the Second World War brought extreme restrictions on the use of materials and a depressed design required much less steel than an elevated freeway.⁴

The Wayne County Road Commissioners finally rejected at-grade improvements and decided on a depressed roadway with access only from the ends, west of Hamilton Avenue and east of Oakland Avenue. Several traffic studies had shown that over 90 percent of the vehicles using Davison Avenue within Highland Park travelled from one part of Detroit to another and did not stop in Highland Park.⁵

The precise timing of the most important decision--to use a depressed roadway--is not entirely clear from the surviving documents. It took place sometime between early June 1940, when Highland Park and the Road Commissioners signed an agreement outlining cost-sharing, and the end of March 1941, by which time the design was fully-developed. In June 1941, Highland Park and the Road Commission became embroiled in a dispute over responsibility for lighting the new highway. The Commissioners proposed a 50-50 split of the Detroit Edison Company charges, which came to \$1,100 per month in total. The Highland Park Council argued that the city should pay no more than \$100 a month, the cost of lighting "old" Davison Avenue. They argued that their agreement of 3 June 1940 to pay half the lighting costs was null and void because the Road Commissioners were projecting an "at-grade" highway at the time. The Road Commissioners practically admitted this when, in January 1942, they agreed to pay the cost of all the depressed lighting on the Davison, roughly three-quarters of the total charges for lighting.⁶

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The Road Commission staff studied highway plans from other parts of the country before deciding on their scheme. Expressways like the Davison were direct descendants of the "parkway," designed to carry large volumes of automobile traffic from cities to and through suburban parks. The two most important early parkway systems emerged in the greater New York City area. The Westchester County Park Commission created a series of parks and parkways in this suburban area north of New York City during the 1920s. Similarly, the Long Island State Park Commission (1924) built an extensive system in the decade ending in 1935. The parkways were generally built on a wide right-of-way, provided limited access to the roadway, and used grade separations to eliminate crossings. But they were not always divided into two distinct roadways and were not designed with high speeds in mind. These were "scenic routes," which meandered through park lands.⁷

The first urban expressway in the United States was the Henry Hudson Parkway extending for over four miles from Manhattan to the Bronx in New York City. Opened to traffic in December 1936, this was a depressed, limited access expressway. The first Los Angeles freeway, the Arroyo Seco Parkway, was also an important predecessor to the Davison Limited Highway. The Arroyo Seco was a six-lane freeway extending from South Pasadena into Los Angeles with some short "at-grade" sections, but it was mostly a depressed highway. Proposed as early as 1936, the first section (0.76 miles) opened to traffic on 4 January 1939. Construction continued and by November 1940, roughly 5 1/2 miles were completed, including 26 bridges. It survives today as the Pasadena Freeway.⁸

Two linked expressways were also built in Michigan at the same time as the Davison, but both ran through rural areas and had a mixture of "at-grade" and elevated sections. The first served the Ford Motor Company Willow Run Bomber Plant (1941) near Ypsilanti, Michigan. The Willow Run Expressway opened in September 1942, was 11 miles long, and extended eastward from the plant to Hannan Road in Romulus. The Detroit Industrial Expressway, opened in January 1943 and continued 11.5 miles eastward from Hannan Road to Southfield Road in Allen Park, nearly to the edge of the Ford River Rouge Plant. The State Highway Department designed and built both expressways with federal funding.⁹

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The Board of Road Commissioners of Wayne County and the City of Highland Park agreed on the overall design of the Davison Limited Highway in late March 1941. Wayne County had already condemned the half block south of Davison Avenue to create the 205-foot right-of-way needed for the project. To clear the land, the Wayne County Road Commission moved 63 residences, including a large number of two-family flats, and demolished 69 buildings, including business structures. The first construction contracts were let in August 1941, followed by additional agreements until March 1942, when all the required work was under contract.¹⁰

Completing the Davison Limited Highway received a high priority by the U.S. Office of Production Management in August 1941. Ford and Chrysler plants in Highland Park did substantial war work, but the bulk of their employees commuted to work from Detroit. The completion of the Davison also improved travel to war plants outside of Highland Park. The new Chrysler Tank Arsenal and the Hudson Motor Car Company Naval Ordnance Plant in Macomb County were located on Van Dyke Avenue, the eastern terminus of Davison Avenue. Workers at those plants and at the Ford River Rouge Plant in Dearborn commuted to work via the Davison. The opening of the Davison Limited Highway allowed the Detroit Department of Street Railways to replace its Baker streetcar line to the Rouge Plant with bus service. About 260 busses per day traveled the route between Mt. Elliot Avenue (east of Highland Park) and the Rouge Plant.¹¹

Construction proceeded quickly on the Davison Limited Highway project, which involved relocating all the major underground utilities, a large excavation for the new roadway, and seven substantial new bridges. Acquiring the right-of-way and removing buildings cost a total of about \$1,450,000 and building the Davison cost another \$2,200,000, yielding a total cost of roughly \$3,650,000. Funding came primarily from gasoline taxes and automobile weight taxes collected in Wayne County and returned to the county by the State of Michigan. The Davison Limited Highway opened to traffic on 25 November 1942. There was no public dedication, however, because of wartime conditions. The local newspaper, The Highland Park, acknowledged that the Davison was the fourth highway in the United States to have a depressed central roadway.¹²

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The Davison Limited Highway is significant on several counts. It was the first depressed urban expressway in Michigan and one of the earliest in the United States. By expediting crosstown traffic through Highland Park and easing congestion, the Davison assisted southeast Michigan's wartime industry. It served as the model for Detroit's first major postwar freeway, the John C. Lodge Expressway, an ambitious highway project which began in downtown Detroit and extended twelve miles to the northwest. The same engineers designed both expressways. A 1945 booklet describing the projected John C. Lodge Expressway featured six illustrations of "the modern expressway," including two from the Davison Freeway, two from New York City, one from the Detroit Industrial Expressway, and one from the Arroyo Seco Freeway in Los Angeles.¹³

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NOTES

¹Sanborn Map and Publishing Company, Insurance Maps of Detroit, Michigan, Vols. 10-A, 14 (New York: Sanborn Map and Publishing Company, 1915, 1925).

²Harry A. Shuptrine and Julian C. Meade, "Davison Limited Highway, Wayne County, Mich. Part I. Planning to Expedite Crosstown Traffic," Civil Engineering 12 (December 1942): 673-74.

³Edward N. Hines, "Progress in Superhighway Planning and Construction, Detroit Region," Engineering News-Record 104 (5 June 1930): 940-943 and Leroy C. Smith, "Trunk-Line Highways in Metropolitan Areas," American Society of Civil Engineers, Proceedings 64 June 1938): 1139-1144.

⁴Burt Stoddard, "Davison X-way Defended; Called Pioneer Roadway--It Eliminated H.P. Bottleneck," The Detroit News, 3 August 1960, E-10.

⁵36th Annual Report of the Board of County Road Commissioners of Wayne County, Michigan, For the Fiscal Year from December 1, 1941 to November 30, 1942, 11-14 and "Super-Street Work To Start; Davison, Through H.P., to Be Depressed," The Detroit News, 18 March 1941, 1-2.

⁶Minutes of the Meetings of the Board of County Road Commissioners, meeting of 10 June 1941, 1061-1063; meeting of 20 June 1941, 1181-1183; and meeting of 23 January 1942, 158-160.

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⁷Jay Downer, "The Parks and Parkways of Westchester County, New York," Municipal and County Engineering 72 (February 1927): 56-59; L.G. Holleran, "Design and Structure of Through Roads for Fast Traffic--Lessons from Westchester County Experience," Engineering News-Record 105 (21 August 1930): 286-289; and Sidney Shapiro, "Long Island State Parks and Parkways," Civil Engineering 6 (November 1936): 746-750.

⁸Kenneth T. Jackson, Crabgrass Frontier: The Suburbanization of the United States (New York: Oxford University Press, 1985), 166-167; Jay Downer, "Henry Hudson Parkway and Its Traffic," Civil Engineering 7 (March 1937): 181-183; S.V. Cortelyou, "Arroyo Seco Parkway Will Include a Six Mile Double Lane Depressed Arterial," California Highways and Public Works, 14 (August 1936): 4-5, 23; "Arroyo Seco 6-Lane Freeway," California Highways and Public Works 17 (June 1939): 10-13; and "Arroyo Seco Parkway Project Required 26 Bridge Structures," California Highways and Public Works 18 (November 1940): 14-15, 19.

⁹G. Donald Kennedy, "The Access Highway System at Willow Run," Michigan Roads and Construction 39 (15 October 1942): 3-4 and "Michigan's Greatest Road System Cost \$26,000,000," Michigan Roads and Construction 42 (15 March 1945): 6.

¹⁰Shuptrine and Mead, "Davison Limited Highway, Wayne County, Mich. Part I.," Civil Engineering 12 (December 1942): 676 and "Construction Starts on Davison Sunken Highway," Michigan Roads and Construction 38 (20 March 1941): 2.

¹¹Thirty-Fifth Annual Report of the Board of County Road Commissioners of Wayne County, Michigan, For the Fiscal Year from December 1, 1940 to November 30, 1941, 27; Davison Limited Highway (1951 reprint), no pagination; and "Davison Project Granted Priority Rating by OPM," The Highland-Parker, 21 August 1941.

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¹²Julian C. Mead, "The Davison Limited Highway,"
Proceedings of the Twenty-Ninth Annual Highway Conference
Held at the University of Michigan, February 10 to 12, 1943
(Ann Arbor: University of Michigan, 1943), 51, 56, 61 and
"Omit Dedication Ceremonies Because of War Conditions,"
The Highland Parker, 19 November 1942.

¹³"Fully-Depressed Expressway Planned For Downtown
Detroit," Engineering News-Record 134 (11 January 1945):
39-40 and Board of Wayne County Road Commissioners, John C.
Lodge Expressway, A Federal, State, County and City Project,
Report of September, 1945 (Detroit, 1945), 1-4.

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SOURCES OF INFORMATION

- A. Engineering Drawings: The original engineering drawings are located in the offices of the Wayne County Department of Public Services (formerly the Road Commission), Division of Engineering, 415 Clifford, Detroit, MI 48226.
- B. Historic Views: The major collection of historic views are located in the offices of the Wayne County Department of Public Services (formerly the Road Commission), Division of Engineering, 415 Clifford, Detroit, MI 48226.
- C. Bibliography

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Detroit News

Detroit Free Press

The Highland Parker

The Michigan Citizen

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2. Secondary and Published Sources:

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Courtelyou, S.V. "Arroyo Seco Parkway Will Include
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181-184.

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Civil Engineering 4 (February 1934): 85-87.

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2. Secondary and Published Sources

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Hewes, L.I. "Metropolitan Highway Problems," Civil Engineering 9 (December 1939): 715-718.

Hines, Edward N. "Progress in Superhighway Planning and Construction, Detroit Region," Engineering News-Record 104 (5 June 1930): 940-943.

Holleran, L.G. "Design and Construction of Through Roads For Fast Traffic," Engineering News-Record 105 (21 August 1930): 286-289.

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Mead, J.C. "The Davison Limited Highway," Proceedings of the Twenty-Ninth Annual Highway Conference Held at the University of Michigan, February 10 to 12, 1943 (Ann Arbor, 1943): 51-62.

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C. Bibliography (continued)

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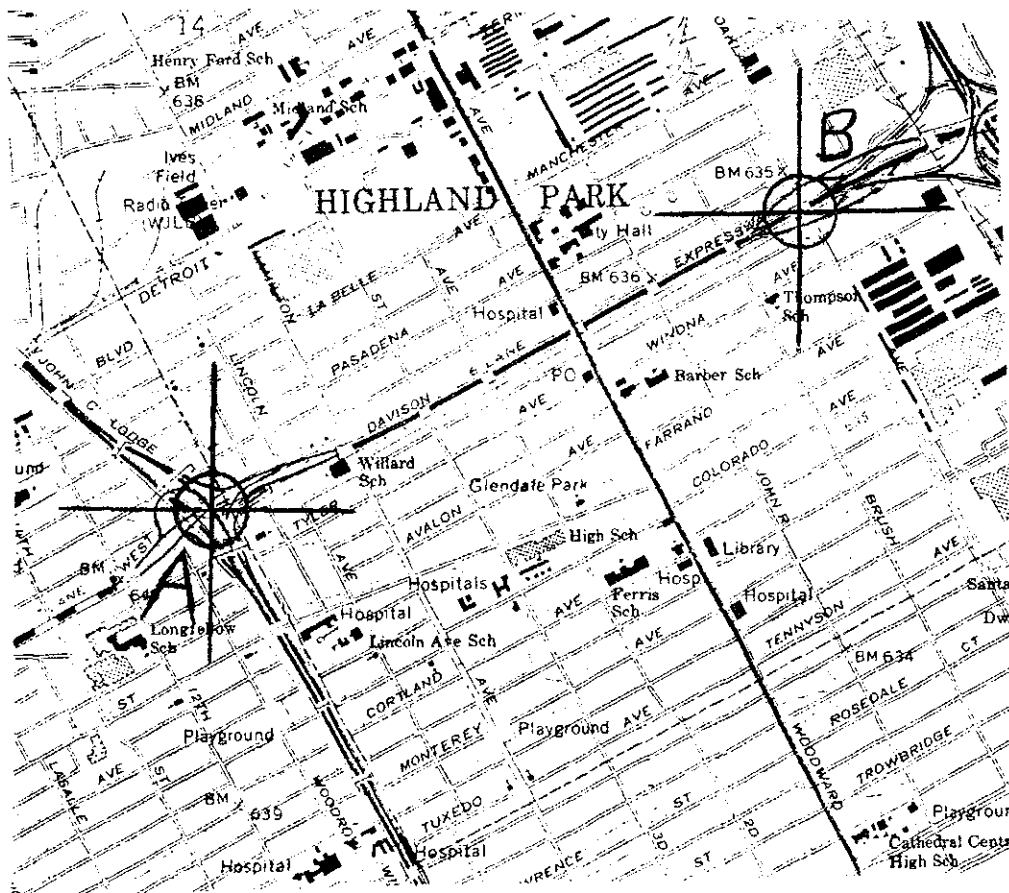
LOCATION MAP



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HIGHLAND PARK, MICHIGAN QUADRANGLE, 1:24,000

UTM: A: 17.326320.4696000
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GENERAL SITE PLAN

